

Amendments to the Specification

Please replace the paragraph beginning at page 23, line 5, with the following rewritten paragraph:

Competitive PCR (schematically shown in FIG. 1A)

For selective amplification of genomic DNA from *Microcystis* we used the 16S rDNA primers 5'-AGCCAAGTCTGCCGTCAAATCA-3' (SEQ. ID NO: 16) (CH) and 5'-ACCGCTACACTGGGAATTCTG-3' (SEQ. ID NO: 17), (CI) (Rudi, K. et al. in Appl. Environ. Microbiol. 63, 2593-2599). The competitor 5'AGCCAAGTCTGCCGTCAAATCAAGCTG CCTCACTGCGGAGCTGGACCAGGAATTCCCAGTGTAGCGGT-3' (SEQ. ID NO: 1) is an oligonucleotide with sequences complementary to the PCR primers CH-CI, and the primer DK (see below) used in the cyclic labelling reaction. Amplification reactions using the GeneAmp 2400 PCR thermocycler (Perkin Elmer, Norwalk, Conn.) contained 10 pmol primers,  $6 \times 10^{-9}$  pmol competitor, 200  $\mu$ M of each deoxynucleotide triphosphate, 10 mM Tris-HCl (pH 8.8), 1.5 mM MgCl<sub>2</sub>, 50 mM KCl, 0.1% Triton X-100, 1U of DynaZyme DNA polymerase (Finnzymes Oy, Espoo, Finland) and purified DNA in a final volume of 50  $\mu$ l. Prior to amplification, the DNA was denatured for 4 minutes at 94°C. and after amplification an extension step for 7 minutes at 72°C. was included. The cycling was done for 40 cycles using the parameters; 94°C. for 30 seconds, 58°C. for 30 seconds and 72°C. for 30 seconds.

Please replace the paragraph beginning at page 23, line 37, with the following rewritten paragraph:

The cyclic labelling reactions were carried out in 20  $\mu$ l volumes containing; 3 pmol primer 5'-GTCCGAGCTCCGCAGTGAGGCAG-3' (SEQ. ID NO: 2) (DK) complementary to the competitor. 3 pmol primer 5'-TCTGCCAGTTCCACCGCCTTAGGT-3' (SEQ. ID NO: 3) (DB) complementary to the *Microcystis* amplicon, 10 pmol ddATP, 10 pmol ddGTP, 10 pmol

ddTTP (Boehringer GmbH, Mannheim, Germany), 7 pmol fluorescein-12-ddCTP (NEN, Boston, Mass.), 1.25 µl Thermo Sequenase reaction buffer, 1.1 µl enzyme dilution buffer, 0.15 µl Thermo Sequenase (Amersham International plc, Buckinghamshire, England) and 6 µl phosphatase-treated PCR product. The labelling was done for 25 cycles using the parameters; 95°C for 30 seconds and 50°C for 4 minutes.

Please replace the paragraph beginning at page 24, line 15 with the following rewritten paragraph:

Hybridization and Chromogenic Detection (schematically shown in FIGS. 1C and D)

One µl (100 pmol/.µl) of primer 5'-ACCTAAAGGCGGTGGAACTGGCAGA-3' (SEQ. ID NO: 4) (DA) and 5'-CTGCCTCACTGCGGAGCTCGGAC-3' (SEQ. ID NO: 5) (DJ) were spotted onto membrane strips (0.4 x 2 cm) GeneScreen (NEN), and then U. V. cross-linked with 5000 joule/cm<sup>2</sup>. Primer DA is complementary to primer DB, and primer DJ is complementary to primer DK. The strips were prehybridized for 2 hours at 37°C in a prehybridization solution containing 0.7 x SSC, 1 x SPEP, 5 x Denhardts and 100 .µ.g/ml heterologous DNA . The products from the cyclic labelling reactions were added to 0.5 ml hybridization solution (0.7.times.SSC, 1.times.SPEP, 1.times.Denhardts, 10% Dextran sulfate and 100 µg/ml heterologous DNA) in a 2 ml microcentrifuge tube, and denatured at 95°C. for 5 minutes. The strips were added, and the incubation continued with gentle inversion for 2 hours at 37°C. The membrane strips were washed in 50 ml (1 x SSC and 1% SDS), then in 50 ml (0.1 x SSC and 0.1% SDS), and finally twice in 50 ml (0.10 M Tris-HCl [pH 7.5] and 0.15 M NaCl). Each washing was performed by brief vortexing at room temperature.

Please replace the paragraph beginning at page 31, line 31 with the following rewritten paragraph:

TABLE 1 - Oligonucleotide probes

Probes	probe sequences <sup>1</sup>
pKO	5'CCTCTGGTACCGTCAGGTTGCTTCACAA3' ( <u>SEQ. ID NO: 6</u> )
pMI3	5'CCCTGAGTGTCAAGATAACAGCCCAGTAG3' ( <u>SEQ. ID NO: 7</u> )
pMI2	5'GCAGGTGGTCAGCCAAGTCTGC3' ( <u>SEQ. ID NO: 8</u> )
pDK	5'TCTGCCAGTTCCACCGCCTTAGGT3' ( <u>SEQ. ID NO: 9</u> )
pPL1	5'TACAGGCCACACCTAGTTCCATCGTTAC3' ( <u>SEQ. ID NO: 10</u> )
pAL	5'CTGCTGTTAAAGAGTCTGGCTCAACCAGAT3' ( <u>SEQ. ID NO: 11</u> )
pAP	5'CCCCTAGCTTCGTCCCTCAGTGTCAAGT3' ( <u>SEQ. ID NO: 12</u> )
pNOS	5'GCTCAACCARATMARAGCAGTGGAAACTA3' ( <u>SEQ. ID NO: 13</u> )
pPL2	5'CAATCATTCCGGATAACGCTTGCATCC3' ( <u>SEQ. ID NO: 14</u> )
pUN	5'CCGTMTTACCGCGGCTGCTGGCA3' ( <u>SEQ. ID NO: 15</u> )

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<sup>1</sup>the primers complementary complementary to these probe sequences were spotted spotted on the membranes

After the claims, please insert the following separate page containing the Abstract.

After the Abstract, please insert the attached Sequence Listing.